AUTOMATED FLUID MINERALS SUPPORT SYSTEM 2
(AFMESS 2)

Automated
Notice of Staking (NOS)
Application Permit to Drill (APD)

USER GUIDE
FOR SUBMITTERS

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1. **About this User Guide**

   This User Manual explains how oil and gas operators use the Bureau of Land Management (BLM) Automated Fluid Mineral Support System 2 (AFMSS 2) for electronically filing of Notice of Staking (NOS) and Application for Permit to Drill (APD). It is divided into separate sections for each topic. Instructions on how the user completes the forms and processes are explained in detail within that section under each heading.

   AFMSS 2, called “AFMSS” hereafter, is a computer software application that supports the processing of Notice of Staking and Application for Permit to Drill forms for oil and gas development on public lands. This application design manages the entire lifecycle of NOS and APD, from Operator/Permit Agent submission to BLM processing. The Operator/Permit Agent will be referred to as simply “Operator” hereafter.

   The new system ensures that all necessary information is captured and stored using the automated process workflows. AFMSS ensures that the entire APD/NOS process provides Operators and BLM with the highest level of information accuracy, visibility, transparency, control, and accountability.

   **IMPORTANT MESSAGE: VIDEO TUTORIALS ARE AVAILABLE!!**

   Most of the instructions in this manual have corresponding video tutorials. Use of this manual in conjunction with these videos will answer most any question you have about the APD process. The videos can be found at this link:  [https://www.ntc.blm.gov/krc/viewresource.php?courseID=869](https://www.ntc.blm.gov/krc/viewresource.php?courseID=869)
2. Logging In and Out

This section will show how to log in and out of AFMSS. Note: If a username or password is needed please go to following URL: https://www.ntc.blm.gov/krc/viewresource.php?courseID=869 and follow the instructions in the “Get Account” video segment.

2.1 Logging into the BLM Access Security System (BASS) and AFMSS

1. Enter the BASS URL: https://www.bass.blm.gov/bass2/login.do in the address line of the Chrome Web browser. The BASS login page will open. The system will not function properly with Windows Explorer or any other browser.

2. Enter username and password.

3. Click the Login button.

Figure 2-1: BASS Login Webpage
4. Click the desired AFMSS application (i.e., NOS/APD Production). Note: please only use the Production environment for real NOSs and APDs. The Training environment may be accessed for practice.

![Figure 2-2: BASS AFMSS Applications](image)

The AFMSS home page will open with the My NOS Worklist tab selected. If you do not see this page shown below then you may need to select the “Operator” mode using the green drop down selector in the right hand corner of the screen. Below you can see the selector is set to “Operator.”

![Figure 2-3: AFMSS Search Screen](image)

2.2 Logging out of AFMSS

To log out of AFMSS, perform the following:

1. Click the **Log Out** link in the upper right hand corner at the top of the screen.

   ![Log Out](image)

   *A new window will open asking “Would you like to logout?”*

2. Click the **OK** button.

   *The AFMSS window will disappear and the BASS login page will load.*

2.3 Changing the BASS Password

1. Every 60 days the BLM BASS system requires a password change. Users will be notified via email to update their passwords. Users can change the password by logging into BASS, then selecting **My Profile**, then
selecting **Change Password** under **Actions**.

![Image: BASS Password Change Screen](image)

**Figure 2-4: BASS Password Change Screen**

### 3. Operator Workspace

This section explains how to navigate the Operator workspace.

#### 3.1 Navigating AFMSS

1. The AFMSS system is comprised of 5 different pages: My NOS Worklist, My APD Worklist, Start New APD/NOS, My Monitor and My Archive.

![Image: AFMSS Menu Bar](image)

**Figure 3-1: AFMSS Menu Bar**

2. The My NOS Worklist page and the My APD Worklist page are similar and contain tasks that need to be completed by the operator.

![Image: NOS Worklist Page](image)

**Figure 3-2: NOS Worklist Page**

3. The Start New APD/NOS page contains the links to launch either the NOS form or the APD form.
4. The My Monitor page displays the running NOS processes section first, followed by the running APD processes. The Quick Search option can be used to find a specific NOS or APD by ID, Well Name, Well Number, etc. Type in the known criteria such as the APD ID in the Quick Search associated with the APD section and hit enter to find things quickly.

5. To check on the status of an NOS or APD and view reports, simply click on NOS or APD ID number link.
6. A new page will open up and at the top you will see the Well Header followed by some reports. After the reports section you will see the BLM Worklist. Both the worklist and the process model assist the user in tracking the NOS or APD.
7. Click on My Archive to see all completed NOSs and APDs. From this tab you can also see and access reports the same monitoring screen by clicking an APD or NOS ID to access reports and details about how the APD was processed.

4. Processing a Notice of Staking (NOS)

4.1 NOS Process Overview
An Operator may submit an NOS followed by an APD or an APD without an NOS. The NOS data entry form allows the Operator to have BLM conduct an onsite review for the location of the proposed well and to provide feedback on the proposed plan prior to the Operator filing an APD. Completing the NOS form and having the onsite already conducted helps to expedite the APD process.

The NOS form is started by entering essential information on the NOS Preliminary Information screen. Upon completion of that screen, enter information in the remaining four sections.

AFMSS utilizes all of the standard data input fields, including text boxes, pick lists (drop-downs), radio buttons, and checkboxes.
4.2 Initiating an NOS

To initiate an NOS or APD process, perform the following:

1. From the AFMSS homepage, select the Start New APD/NOS page.

   The screen will show the Click to start a new Notice of Staking link. Click the link.

   ![Figure 4-2: Start New APD/NOS](image)

2. A new window will open displaying the NOS Preliminary Information screen.

   ![Figure 4-3: NOS Preliminary Information](image)

3. Enter the appropriate information into the necessary fields.

   NOTE: At this screen, you also have the option to clone data from a previous NOS. If you select yes to cloning the NOS from a previous one, you will be able to select the ID number of the NOS you would like to clone. It will appear from a drop-down list. Choose the cloning options. Clicking Clone NOS will advance your application to
the next task and the Section 1 – General window will open with the cloned data pre-populated in the data fields on screen.

![Image of the Preliminary Information screen with options to clone NOS and a save button]

**Figure 4-4: Clone a NOS**

If you did not clone another NOS, click on the **Save** button once you have entered the appropriate information.

**Note: Tooltips and Help Icons:** Many fields have a tooltip that gives guidance or instructions to the user. The help icon 🔄 will appear next to certain fields, and pointing at this icon with your mouse will pop up the help text.

*The Preliminary Information screen will close and the Section 1 – General window will open.*

4. Enter the appropriate information into the necessary fields.
Note: After the release on March 26, 2018, the lease and agreement fields have been broken into five separate fields: Geo State, Land Office, Prefix, Serial Number, and Suffix. This enhancement was added to create a more precise validation with the LR2000 system. After entering the Lease number in the correct fields, click Validate Lease. If it is valid in LR2000, a green check mark as well as the acreage associated with the lease will appear on the screen. After submitting, the lease number will appear as one concatenated number i.e in the example above, the report will show the lease as NVN4350. The same process applies to agreements as well.

This new style of Lease/ Agreement entry will allow users to enter numbers containing lead or double zero’s in the lease/ agreement number. The system would not allow these before by cutting off information, but now validates them through the LR2000 system and shows on reports correctly.

5. Click on the Next button. Notice the indicator at the top of your screen to see progress made on application.
The Section 1 – General screen will be saved and Section 2 – Well Information screen will appear.

6. Enter the appropriate information into the necessary fields. If you filled in all the required information the screen indicator at the top of the screen will be filled in completely blue as shown below. If the screen indicator isn’t filled in completely, then information on the page is missing and the screen needs to be completed. Then green indicator shows the page number that is currently displayed.

7. Click on the Next button.
The Section 2 – Well Information screen will be saved and Section 3 – Well Information screen will appear.

8. Enter the appropriate information into the necessary fields. Note: Lease information fields in this table will be broken into the same five separate fields displayed in Section 1 for validation with LR2000.

9. Click on the Next button

The Section 3 – Well Location Table screen will close and the Section 4 – Other window will open.
10. Enter the appropriate information into the necessary fields.

11. Enter the appropriate attachments by clicking the Add Attachment buttons. This will open your browser and allow you to add the necessary attachments. Click Choose File and select your attachment and click Open, then Save. You may add more than one attachment by repeating the process or you may select multiple attachments from your file list.

4.3 Submitting an NOS

After all four sections of the electronic NOS have been entered into the AFMSSS system, the process is ready to be
submitted to the BLM for processing. It is good practice to print or save the NOS Reports for your records before submitting the NOS to the BLM, although the reports are available anytime from the My Monitor page.

To submit the electronic NOS, perform the following:

Click on the **Submit Application** button at the top of the screen.  
*The electronic NOS window will close and the AFMSS homepage will appear. The electronic NOS will move to the next phase in the process.*

### 4.4 Canceling an NOS

The Operator can cancel the NOS after initiating the NOS and throughout sections 1 – 4, before the NOS is submitted to the BLM. Once submitted, an NOS can be cancelled by the BLM if requested.

To cancel the electronic NOS, perform the following:

Click on the **Cancel Application** button.  
*The electronic NOS window will close and the NOS process will move to the My Archive tab.*

**NOTE:** While an NOS is being reviewed by the BLM the Operator will NOT be able to make any edits to it unless the BLM returns it to the Operator/Permit Agent.

### 4.6 NOS Email Notifications

There are few time during the NOS process where the operator will receive email notifications:

1. Once the NOS has been accepted, an email will be received from the BLM.
2. An email will also be received during the Notice of Conformance Review and onsite date including potential conformance issues.
3. NOS onsite review results – if applicable.
4. If the NOS expires an email will be received 60 days after the onsite has been completed if no action has been taken.
4.7 Initiating an APD from an NOS – Method not recommended use the alternative method

This functionality is not recommended at this time because it doesn’t allow the user to clone from another APD which is a major time saver. Best practice suggest using section 5.1 and create a new APD.

After an electronic NOS has completed the NOS process successfully, the process will automatically create an electronic APD in the Operator’s APD Worklist. The electronic APD Activity label will be listed as Submit post-NOS APD.

Selecting the Submit post-NOS APD Activity from the APD Worklist will initiate the APD process. The Operator will now be able to enter the missing information and make changes to the existing fields as necessary. The Operator can select to initiate an APD without using this task and should not use this task if the desire is to clone information from another APD as that option will not be available. Instructions to tie an NOS to an APD without using this task are in the appendix.

5. Completing an Application for Permit to Drill (APD)
APD data entry forms are used to enter all data required for submission of a new APD. The forms are organized according to Onshore Oil and Gas Order 1.

The forms are organized to require that you start by entering essential information on the APD Preliminary Information screen. Upon completion of that screen, you can begin entering information in any of the APD Entry Forms.

AFMSS utilizes all of the standard data input fields, including textboxes, pick lists (drop-downs), radio buttons, and checkboxes.

5.1 Electronic APD Process

The Operator initiates an electronic APD by selecting the **Click to start a new Application for Permit to Drill** link from the **Start New APD/NOS** tab on the AFMSS homepage. The Preliminary Information screen will then open in a new window. The Operator will then enter the appropriate information into the necessary fields (note: required fields are marked with an asterisk). The information entered in this screen will create a banner at the top of each screen.
referred to as the Well Header.

![Figure 5-3: Electronic APD Preliminary Information](image)

After the Operator clicks the **Save** button, a new window will appear with the **Application** module, and the **Section 1 – General** screen will load.

### 5.2 Cloning an APD

At the preliminary information screen, you have the option to create an APD with data cloned from a prior APD.

![Figure 5-4: Clone an APD](image)

When cloning an APD, perform the following steps:

1. Initiate an APD.
2. Select “Yes” when asked if you want to clone the APD from a prior APD.
3. Select an APD ID to clone from the drop-down list.
4. Select the cloning options you prefer.
5. Click **Clone APD**.

Once you perform these steps, the system will advance your application to the next task and the **Section 1 – General** window will open with the cloned data pre-populated in the data fields on screen.
5.3 Navigating the APD Form

Navigation Tabs: The left side of the screen contains the navigation tabs. You may click on these tabs to jump directly to an APD Entry Form. They also display an approximation of your progress (% completed) as you complete the form.

![Figure 5-5: APD Navigation Tabs](image)

Navigation Bars: Within each entry form section there is a navigation bar along the top. You may click on this bar to jump directly to a subsection. As sub-sections are started and/or completed, the navigation bar will change colors to denote its status (White: not filled out; Green: screen presently working on; ½ Blue: partially filled in; Blue: completed).

![Figure 5-6: APD Navigation Bars](image)

Navigation Buttons: You may also use the buttons at the bottom of each page to navigate to the next or prior logical subsection.

![Figure 5-7: APD Navigation Buttons](image)
**Tooltips and Help Icons:** Many fields have a tooltip that gives guidance or instructions to the user. The help icon 🔄 will appear next to certain fields, and pointing at this icon with your mouse will pop up the help text.

Based on your profile, AFMSS will automatically fill in a limited number of form fields automatically (auto-fill).

### 5.4 Textboxes
Areas for text can be filled by placing your cursor in the field and typing or by copying and pasting from other documents. Text areas can be expanded by pulling on the lower right corner icon in the field. The larger text boxes have a character limit of 4000.

### 5.5 Data Validation
AFMSS includes a robust set of data validations that help ensure the information you provide is in the format and level of detail required. For example, the system checks the Lease Serial Number against the Lease Serial Numbers in the BLM LR2000 system for Federal leases. If the Lease Serial Number you entered does not appear in LR2000, a message on the screen will notify you that this is the case. Keep in mind that for new leases, the Lease Serial Number may not appear on the list of valid Lease Serial Numbers for up to two days. There is no validation for Alaskan or Indian leases at this time.

### 5.6 Saving Your Data
The data that you enter can be manually saved using the buttons at the bottom of each screen. Your data will be automatically saved whenever you leave a form section. You do NOT have to fill out every single mandatory field until ready to submit the entire application to BLM for review.

### 5.7 Printing Your APD
At the bottom of the Operator form, click the APD Print Report link to print the APD. [APD Print Report]

### 5.8 APD Application Form Section
After entering the required data in the preliminary screen, the APD form will move to the next section in Application section of the process.

### 5.9 Application Section
The first page of the Application Section is Section 1-General and the very first question you will encounter is “Tie to a previous NOS?”

![Section 1 - General](image)
If you have an NOS that needs to be linked to the APD you can choose YES for this questions. If you cloned your APD you will simply choose the NOS number and leave the “Select the Copy Option” blank so that you do not erase all the cloned data. If you did not clone then it would be best to select an option and then use the “Copy NOS” feature.

After completing section 1 you may choose to validate the data to make sure that all required fields are complete. After validating use the NEXT button to advance to the next section. The NEXT button automatically save the information you entered.
Note: After the release on March 26, 2018, the lease and agreement fields have been broken into five separate fields: Geo State, Land Office, Prefix, Serial Number, and Suffix. This enhancement was added to create a more precise validation with the LR2000 system. After entering the Lease number in the correct fields, click Validate Lease. If it is valid in LR2000, a green check mark as well as the acreage associated with the lease will appear on the screen. After submitting, the lease number will appear as one concatenated number i.e in the example above, the report will show the lease as NVN4350. The same process applies to agreements as well.

This new style of Lease/ Agreement entry will allow users to enter numbers containing lead or double zero’s in the lease/ agreement number. The system would not allow these before by cutting off information, but now validates them through the LR2000 system and shows on reports correctly.

After the Operator clicks the Next button, a new screen will appear with the Application module, and the Section 2 – Well Information screen will load. The Operator will enter the appropriate information into the necessary fields.

If submitting an APD without a NOS prior to submission, or if submitting a cloned APD select No to the Question: Tie to previous NOS?

NOTE: If the APD is for a well on an Indian lease, the Yes radio button for the “Keep Application Confidential” question will already be selected.
After the Operator clicks the Next button, a new screen will appear with the Application module, and the Section 3 – Well Location Table screen will load. The Operator will enter the appropriate information into the necessary fields.
Figure 5-12: Electronic APD Section 3 – Well Location Table

Note: Lease information fields in this table will be broken into the same five separate fields displayed in Section 1 for validation with LR2000.

After the Operator clicks the Next button, a new screen will appear in the Drilling Plan module, and the Section 1 – Geologic Formations screen will load.

5.10 APD Drilling Plan Form Sections

The Drilling Plan portion of the APD is made up of eight screens that address the eight point drilling plan. The overview below identifies the eight screens.
In the Section 1 – Geologic Formations screen, the Operator will enter the appropriate information into the necessary fields.
After the Operator clicks the **Next** button, a new screen will appear in the Drilling Plan module, and the **Section 2 – Blowout Prevention Table** screen will load. The Operator will enter the appropriate information into the necessary fields.

After the information is completed it may be edited or deleted.
Multiple casing may be added by clicking the Add Casing button at the bottom of the screen. Continue to add casings until all the information is recorded and then click Next.

After the Operator clicks the Next button, a new screen will appear in the Drilling Plan module, and the Section 4 – Cement screen will load. The Operator will enter the appropriate information into the necessary fields. Complete this section for every segment by clicking the Add Segment button. Edit the segments by clicking the Edit icon to the right of the screen.
After the Operator clicks the **Next** button, a new screen will appear in the **Drilling Plan** module, and the **Section 5 – Circulating Medium** screen will load. The Operator will enter the appropriate information into the necessary fields.
Complete a **Circulating Medium Table** for each part of the well. As each table is completed, save it, and if another table is required click the **Add** button at the bottom of the table. You can edit or delete completed tables by clicking the **Edit** and **Delete** icons on the right hand side of each table.

![Circulating Medium Table](image.png)

**Figure 5-20: Electronic APD Drilling Plan – Circulating Medium Table**

After the Operator clicks the **Next** button, a new screen will appear in the **Drilling Plan** module, and the **Section 6 – Test, Logging, and Coring** screen will load. The Operator will enter the appropriate information into the necessary fields.
After the Operator clicks the **Next** button, a new screen will appear in the **Drilling Plan** module, and the **Section 7 – Pressure** screen will load. The Operator will enter the appropriate information into the necessary fields. Add all necessary attachments.

After the Operator clicks the **Next** button, a new screen will appear in the **Drilling Plan** module, and the **Section 8 – Other Information** screen will load. The Operator will enter the appropriate information into the necessary fields.
After the Operator clicks the **Next** button, a new section will appear: the **Surface Use Plan of Operations (SUPO)**.

### 5.11 APD Surface Use Plan of Operations Form Section

The Surface Use Plan of Operations (SUPO) section of the APD consists of twelve screens. Below is an overview of the twelve screens in the SUPO section.

After the Operator clicks the **Next** button in the previous section, a new screen will appear in the **Surface Use Plan of Operations (SUPO)** module, and the **Section 1 – Existing Roads** screen will load. The Operator will enter the appropriate information into the necessary fields. Ensure that all attachments are included and click the Right of Way (ROW) ID(s) button to add if known. Notice as each section is completed your progress is recorded on the right hand side of the screen.

This section is the most logical place for the operator to state that existing roads will be maintained in the same condition.
or better for the life of the well, per OO#1 requirements.

- **“Will existing roads be used?”** – Always select “Yes” on this question in order to allow the rest of the questions and data fields to populate below the first question in this section (that were previously hidden) because existing roads will always be used at some point to get access to the project location (Figure 1).
- **“Do the existing roads need to be improved?”** – Always select “Yes” on this question in order to type something to the effect of “existing roads will be maintained in the same condition or better” in the “Existing Road Improvement Description” text box **OR** attach an existing road improvement attachment (Figure 2).

![Figure 5-25: Electronic APD SUPO Section 1 – Existing Roads](image)

How the screen looks when **Yes** is selected. Be sure to add all necessary attachments and complete required tables.

![Figure 5-26: Electronic APD SUPO Section 1 – Existing Roads](image)

Second half of the screen:
After the Operator clicks the Next button, a new screen will appear in the SUPO module, and the **Section 2 - New or Reconstructed Access Roads** screen will load. The Operator will enter the appropriate information into the necessary fields. First answer if new roads are needed. If the answer is **No**, check the radial button and then click Next to go to section 3, if the answer is **Yes** complete the screen that appears following that selection.

- **“Will new roads be needed?”** – Select “Yes” for this question UNLESS the project access road and/or ramp is already built and there will be no new disturbance on the access road or pad entry. If you do not select yes, the rest of the questions and data fields in this section will be hidden. When selecting yes, you will be able to add a road attachment and include other details on the specifications for the well pad access.

- **“New Road Map”** – Upload map(s) with the new and existing road structures (e.g. culverts, bridges, etc.), distances from the point where the access road exits an established road, and typical approach and sections of the road (preferably combined into one file).
● "Access Miscellaneous Information" – Describe the road topsoil and stockpile location and containment during construction in this text box.

After the Operator clicks the Next button, a new screen will appear in the SUPO module, and the Section 3 - Location of Existing Wells screen will load. Always answer Yes to this question in order to attach the existing wells within a one-mile radius map. If the wells on the map are not labeled with their names, include a list or table of well names that correspond with the wells marked on the map. The Operator will enter the appropriate information into the necessary fields. Include all necessary attachments.

After the Operator clicks the Next button, a new screen will appear in the SUPO module, and the Section 4 - Location of Existing and/or Proposed Production Facilities screen will load. The Operator will enter the appropriate information into the necessary fields. If Defer is chosen, a description will be required in the Production Facility Description text box. The BLM may require additional information in order to conduct NEPA analysis as well as a pre-construction onsite inspection.
After the Operator clicks the **Next** button, a new screen will appear in the **SUPO** module, and the **Section 5 - Location and Types of Water Supply** screen will load. The Operator will enter the appropriate information into the necessary fields. Use the Add button to create a water source table entry for each type of water source used during drilling, testing, and production. Once you click the button, a pop out window will appear allowing you to enter the details about the water source.

An estimate water source volume needs to be entered, if one is not available enter zero. Complete all **Water Source tables**. You may edit the tables by clicking on the Edit and Delete icons to the right side of the screen.
After the Operator clicks the **Next** button, a new screen will appear in the **SUPO** module, and the **Section 6 - Construction Materials** screen will load. The Operator will enter the appropriate information into the necessary fields. Check the **Yes** or **No** radial button and complete the form.

- Select “Yes” to describe the character and intended use of all construction materials needed to construct the well pad and access road including the surfacing material. Describe the location of the proposed source(s) of construction materials down to the quarter-quarter or depict it on a map or plat. If the application is for an infill well on an existing pad, select “No” for this question.

After the Operator clicks the **Next** button, a new screen will appear in the **SUPO** module, and the **Section 7 - Methods of Handling Waste** screen will load. Use the **Add** button to create entries for each type of waste.
A pop up window will appear allowing you to enter details about the waste type. The applicant must include entries for the following waste types: drilling (i.e., fluids and cuttings), garbage, sewage, and chemicals (i.e., any chemicals used during operations besides drilling fluids), and produced water and oil recovered during testing of the well. Each entry must include details about the methods and locations of safe containment as well as the eventual disposal.

The Operator will enter the appropriate information into the necessary fields.
After the Operator clicks the Next button, a new screen will appear in the SUPO module, and the **Section 8 - Ancillary Facilities** screen will load. The Operator will enter the appropriate information into the necessary fields. If **No** continue to **Section 9**. If **Yes** the add attachment and comments in the fields that appear.

![Figure 5-37: Electronic APD SUPO Section 8 – Ancillary Facilities](image)

After the Operator clicks the **Next** button, a new screen will appear in the **SUPO** module, and the **Section 9 - Well Site Layout** screen will load. The Operator will include drill rig layout diagram, interim reclamation diagram, and cuts and fills diagrams, quantities page, and cross sections here if they were not previously depicted on or included with the production facility layout diagram. Enter the appropriate information into the necessary fields. Add necessary attachment and comments.

![Figure 5-38: Electronic APD SUPO Section 9 – Well Site Layout](image)
After the Operator clicks the Next button, a new screen will appear in the SUPO module, and the Section 10 – Plans for Final Surface Reclamation screen will load. The Operator will enter the appropriate information into the necessary fields. There is a significant amount of information required to complete this section. This manual will cover all the steps required. The first step is to Copy Previous Reclamation Plan or Copy Approved Reclamation Plan if suitable for this application. The help menus are available if you need assistance. If there are no previous or approved plans then continue completing the form.

Figure 5-39: Electronic APD SUPO Section 10 – Plans for Final Surface Reclamation

Continue to complete Section 10 filling out all required fields. The section with three columns for surface acreage disturbance will only display if the “New Surface Disturbance” radio button is selected. The “Road Proposed Disturbance (acres)” question is not editable. In order for this question to become editable, the user must have answered “Yes” to the question “Will new roads be needed?” on page 2 of the SUPO. The three columns include the proposed acreage to be disturbed initially, the interim reclamation acreage, and the long term disturbance acreage remaining after interim reclamation.

Figure 5-40: Electronic APD SUPO Section 10 – Plans for Final Surface Reclamation
● “Recontouring Attachment” – In this attachment field, upload diagrams of pre-disturbance and post-reclamation contours.

● “Drainage/Erosion Control” – Describe details about construction and reclamation procedures for drainage control structures (e.g. culverts, wing ditches, etc.).

![Figure 5-41: Electronic APD SUPO Section 10 – Plans for Final Surface Reclamation](image)

● “Reconstruction Method” – Include reconstruction methods for interim and final reclamation.

● “Topsoil Redistribution” – Describe topsoil re-spreading in this text box.

![Figure 5-42: Electronic APD SUPO Section 10 – Plans for Final Surface Reclamation](image)

● “Existing Vegetation” Fields – Briefly describe the existing vegetation and/or land use at the location (e.g. mixed grass prairie, agricultural field, grazing). If the vegetation at the other road or ROW differs, indicate that in the existing vegetation text boxes that follow.

![Figure 5-43: Electronic APD SUPO Section 10 – Plans for Final Surface Reclamation](image)

Next, complete the Seed Management tables. Tables may be added, edited or deleted as necessary:
- **Seed Questions** – Answer all the yes/no seed questions

  ![Seed Questions Table](image)

  **Figure 5-44: Electronic APD SUPO Section 10 – Plans for Final Surface Reclamation**

- **“Seed Table”** – If the project is on BLM surface and the seed mix will differ from the prescribed seed mix typically provided in the COAs, complete this table by clicking “Add seed entry...” button to enter each type of seed used in the reclamation seed mix.

- **“Seedbed Prep”** – Describe how the seedbed will be prepared (e.g. ripping, disk, dozer track walking, etc.).

- **“Seed Method”** – Describe how the location will be seeded (e.g. drilled, broadcast, hydro-seeded).

  ![Seed Table](image)

  **Figure 5-45: Electronic APD SUPO Section 10 – Plans for Final Surface Reclamation**

  ![Seed Management](image)

  **Figure 5-46: Electronic APD SUPO Section 10 – Plans for Final Surface Reclamation**
Complete the remaining areas of Section 10:

Figure 5-47: Electronic APD SUPO Section 10 – Plans for Final Surface Reclamation

Remember to Validate and Save your work as you progress to prevent data loss.

After the Operator clicks the Next button, a new screen will appear in the SUPO module, and the Section 11 – Surface Ownership screen will load. Click the Add button to add one or multiple surface owners. The Operator will enter the appropriate information into the necessary fields. Check all surface area ownership and management areas here. Click Add Private Ownership button if necessary to add the necessary information and click Add button
● **“Surface Use Plan Certification”** – If you selected “Private Ownership” as the type of surface owner, once you save the entry, a pop out window labeled “Edit Private Ownership” will appear. If there is any private (FEE) surface in the proposed project area, record each surface owner and attach a surface access self-certification form for each.
  
  ○ Be sure to select “Yes” on the question “Surface Use Plan Certification?” in order for the attachment field to attach the surface use certification form to appear on the surface ownership table on the next screen.
- Answer “Agreement” on the “Surface access agreement or bond?” question (unless you have an additional surface access bond with the BLM or other SMA because you did not come to an agreement with the landowner).
- Indicate what day the SUPO was sent to the surface owner in the “Surface Access Agreement Need Description” text box.
- Once you save the surface owner’s information, you will see an “Add Attachment” button below the “Surface Use Plan Certification” field. Attach your Surface Access Self-Certification form there.

After the Operator clicks the Next button, a new screen will appear in the SUPO module, and the Section 12 – Other Information screen will load. The Operator will enter the appropriate information into the necessary fields.

- “Right of Way Needed?” – Only select “Yes” on this question if a BLM ROW is needed for the project.
● “Use a previously conducted onsite?” – If the onsite inspection already took place, enter the date and any other pertinent details here.

● “Other SUPO Attachments” – Add other useful attachments here such as forms from previous onsites, third party and other surface management agency (SMA) NEPA documents, Concurrence (Letter to Construct) Letters from other SMAs, and approved ROWs or easements. Do NOT reattach any SUPO template documents you may have created. Ensure that all data fields in the application are filled out as completely as possible to avoid redundancy and the need to attach an additional SUPO document.

This completes the third section of the APD Application.

5.12 APD Produced Water Disposal Form Section

The PWD section of the APD consists of eight screens.

After the Operator clicks the Next button, a new screen will appear in the Produced Water Disposal (PWD)
module, and the **Section 1 – General** screen will load. The Operator will enter the appropriate information into the necessary fields or the operator can select **No** and address long-term produced water through the sundry process after the APD has been approved.

![Figure 5-52: Electronic APD PWD Section 1 – General Information](image)

After the Operator clicks the **Next** button, a new screen will appear in the **PWD** module, and the **Section 2 - Lined Pits** screen will load. The Operator will enter the appropriate information into the necessary fields. A **No** option will allow take you to the next step. A **Yes** option will require additional information.

![Figure 5-53: Electronic APD PWD Section 2 – Lined Pits](image)

The **Yes** option requires additional information as shown:
After the Operator clicks the **Next** button, a new screen will appear in the **PWD** module, and the **Section 3 - Unlined Pits** screen will load. The Operator will enter the appropriate information into the necessary fields. Again **Yes** and **No** options will be presented.

Remaining screen sections when yes is selected:
After the Operator clicks the **Next** button, a new screen will appear in the PWD module, and the **Section 4 - Injection** screen will load. The Operator will enter the appropriate information into the necessary fields.
After the Operator clicks the Next button, a new screen will appear in the PWD module, and the Section 5 - Surface Discharge screen will load. The Operator will enter the appropriate information into the necessary fields.

After the Operator clicks the Next button, a new screen will appear in the PWD module, and the Section 6 - Other screen will load. The Operator will enter the appropriate information into the necessary fields.
Figure 5-59: Electronic APD PWD Section 6 - Other

After the Operator clicks the **Next** button, a new screen will appear and the **Bonds** screen will load. The Operator will enter the appropriate information into the necessary fields.

### 5.13 Bond Section

Complete the bond screen with all required information.

Figure 5-60: Electronic APD Bond Information

After the Operator clicks the **Next** button, a new screen will appear and the **Operator Certification** screen will load. The Operator will enter the appropriate information into the necessary fields. The electronic signature is acceptable and will automatically complete the Signed on date.
5.14 Application Fee Section

After the Operator clicks the Next button, a new screen will appear and the Application Fee screen will load. The Operator will enter the appropriate information into the necessary fields. The APD process is now almost complete. If payment was made to BLM directly check the radial button BLM DIRECT and enter or the receipt number. If payment has been made via Pay.GOV enter the pay.gov Tracking ID.

If payment needs to be made at this time click the link to launch pay.gov to make payment.

The APD application fee can be paid by selecting the hyperlink to the Pay.Gov website. You will be asked to enter a set of questions then pay by credit card. A Tracking ID number will be given to you by Pay.gov and you will enter that into the field on the Application Payment Form. Payment by credit Card is limited $24,999.99 which will cover...
two APD fees maximum ($9,790 each). Payment through Pay.Gov can also be made by electronic funds transfer (ACH). If payment is made this way you may pay for as many APDs as you would like. The ACH option allows users to pay for 15 APDs per transaction, but there is no limit to the amount of transactions. Click the **Continue to the Form** button.

![Image of the Pay.gov Screen](image)

*Figure 5-63: Image of the Pay.gov Screen*

The Complete Agency Form screen will open. Enter the required fields and click continue.
Next Select payment type:

Complete the payment information, and click the **Review and Submit Payment** button. Be sure to keep track of the Pay.Gov tracking number as you will need this number to submit your APD.
The pay.gov tracking ID number will be in following format: ###XXXX#  example: 222WXYZ3

It is IMPORTANT to have access to this number it will be needed to submit the APD. A receipt number is required. Inserting “pending” will not be acceptable, even though the system accepts it, your APD will be returned for the correct information.

Once all items in the application have been accounted for 100% the application may be submitted to the BLM for processing. The legend will show you if any items are incomplete before submitting the application.
5.15 Submitting Your APD

Once all mandatory fields have been filled and the APD Application Fee has been paid, you can submit your APD by clicking on the Submit APD button on the left side of any screen. Clicking the Delete APD button will indicate that you do not want to submit this APD and the task will be archived.

Once the Submit APD button is clicked the Application will be sent to the BLM office designated in the application.
6. BLM Processing and Response - Application for Permit to Drill (APD)

6.1 BLM Response and Operator Corrections
Once the BLM has received the APD application, a review of the application for completeness and errors will take place. One of two things will happen:

- If the APD is missing information or contains errors the BLM will notify the operator and return the APD for correction. Once those corrections have been made and verified, the application will be forwarded to the BLM Analysts for processing.

The status of the application can be tracked via the My Monitor page.

![My Monitor page](image)

Figure 6-1: Tracking an Application in My Monitor

6.2 The 10-Day Letter
An example of the 10-day letter that is sent via email to the Operator is shown below (first page only). The 10-day letter outlines the current deficiencies, if any, and the operator has will receive the task called Submit Change Address Deficiencies to make corrections to the APD. If there are no deficiencies then this task will not be generated.
6.3 Operator Submit Changes and Address Deficiencies

After the 10-day letter is sent, the APD is sent back to the Operator to address deficiencies. The Operator or Permit Agent will receive a task called "Submit Changes/Address Deficiencies." Please reference the 10-day letter for the items that need to be addressed. IMPORTANT: If the onsite inspection has not been conducted and the Operator has not received an onsite inspection report, then the Operator will not be able to submit the APD back to the BLM until that task is complete and the operator receives the onsite inspection report. The system functions this way because the BLM needs all deficiencies addressed that are listed on the 10-day letter and the onsite inspection report at this point in time. An Operator may request an extension if they cannot complete all deficiencies within the 45 day period allowed.

6.4 Deferral Process

Once the APD is complete, the BLM has 30 days to approve the APD. If the APD cannot be approved within the 30 days, the BLM may defer approval to a later time due to additional action or information that is needed to
finalize the APD package from either party (Operators or BLM). An Operator may also request a deferral by contacting the BLM Office where the APD was submitted.

When a deferral is requested, an e-mail with a letter attached explaining the reasons for the deferral and whether additional action is needed (see figure below) is sent. If this is the first instance of a deferral, the letter will be referred to as the 30-Day Letter. Subsequent deferrals will just be referred to as just deferral letters. If the deferral is due to additional action or information that is needed, the “Address Deferral Items” task will appear on “My APD Worklist”.

Figure 6-3: Page 1 of the 30-Day/Deferral Letter
6.4.1 Address Deferral Items

This screen will appear identical to the APD application form and will allow you to make the changes needed to resolve the deferral items outlined in the letter.

At this point, you can either click **Withdraw APD** to withdraw your application or **Submit APD** to submit it once you have made the necessary revisions.
Figure 6-5: Address Deferral Items task
6.5 Final Step - Operator Print Package

The final step in the process is for the Operator to access the APD package within AFMSS. Clicking the Complete button completes the process and the APD will be listed in the Archive (this will happen automatically after 30 days). The Operator can print the complete APD Package from this screen.

![AFMSS II Application for Permit to Drill](image)

*Figure 6-6: Operator Print APD Package*
APPENDIX A – Helpful Hints

Radio Buttons: ○ Only one selection at a time.

Check boxes: □ Multiple selections can be made.

Before exiting any window, use the SAVE, SAVE & EXIT, or NEXT button to save any new or changed data you have added.

Legal Land Descriptions:

- LLDs are not zero filled. They can be entered as such:
  - Township: 3N = 3N
  - Range: 21E = 21E
  - Section: 31 = 31
  - Aliquot Part: QTR/QTR
  - Lot: alpha numeric
  - Tract: alpha numeric
APPENDIX B - List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>APD</td>
<td>Application for Permit to Drill</td>
</tr>
<tr>
<td>AFMSS</td>
<td>Automated Fluid Mineral Support System 2</td>
</tr>
<tr>
<td>API</td>
<td>Now US Well Number</td>
</tr>
<tr>
<td>BASS</td>
<td>BLM Access Security System</td>
</tr>
<tr>
<td>BPM</td>
<td>Business Process Management</td>
</tr>
<tr>
<td>GDP</td>
<td>Geothermal (Well) Drilling Permit</td>
</tr>
<tr>
<td>GRASS</td>
<td>Geothermal Resources Automated Support System</td>
</tr>
<tr>
<td>NOS</td>
<td>Notice of Staking</td>
</tr>
<tr>
<td>PWD</td>
<td>Produced Water Disposal</td>
</tr>
<tr>
<td>SUPO</td>
<td>Surface Use Plan of Operations</td>
</tr>
<tr>
<td>TG</td>
<td>Temperature Gradient</td>
</tr>
<tr>
<td>US Well Number</td>
<td>Former API or APD Number</td>
</tr>
<tr>
<td>WCR</td>
<td>Well Completion Report</td>
</tr>
<tr>
<td>WIS</td>
<td>Well Information System</td>
</tr>
</tbody>
</table>

APPENDIX C - List of Terms

**ABANDON**
(1) The proper plugging and abandoning of a well in compliance with all applicable regulations, and the cleaning up of the well site to the satisfaction of any governmental body having jurisdiction with respect thereto and to the reasonable satisfaction of the Operator. (2) To cease efforts to find or produce from a well or field. (3) To plug a well completion and salvage material and equipment.

**ABATEMENT**
(1) The act or process of reducing the intensity of pollution. (2) The use of some method of abating pollution.

**AMERICAN PETROLEUM INSTITUTE (API)**
The American Petroleum Institute is the primary trade association representing the oil and natural gas industry in the United States.
ANNULUS  The space between: (1) the casing and the wall of the borehole. (2) Two strings of casing. (3) Tubing and casing.

API  American Petroleum Institute

API COUNTY CODE  An indicator developed by the American Petroleum Institute (API) to identify areas such as counties and other subdivision areas identified within state boundaries. Defined by API bulletin d12a, as amended. This code becomes a part of the API well number.

API STATE CODE  The indicator assigned to a state, as defined in API bulletin d12a, as amended. This code is a part of the API well number (the API state code for Colorado is 05).

API WELL NUMBER  A well identifier assigned as defined in API (American Petroleum Institute) Bulletin d12a, as amended. The API well numbers are assigned by the appropriate state or federal regulatory agency. Now US Well Number.

APPRAISAL WELL  A well drilled as part of an appraisal drilling program that is carried out to determine the physical extent, reserves, and likely production rate of a field.

ASSOCIATED GAS  A well drilled as part of an appraisal drilling program that is carried out to determine the physical extent, reserves, and likely production rate of a field.

BARREL  A unit of volume measurement used for petroleum and its products (7.3 barrels = 1 ton; 6.29 barrels = 1 cubic meter).

Bbl  One barrel of oil; 1 barrel = 35 imperial gallons (approx.), or 159 liters (approx.); 7.5 barrels = 1 ton (approx.); 6.29 barrels = 1 cubic meter.

Bcf  Billion cubic feet; 1 bcf = 0.83 million tons of oil equivalent.

Bcm  Billion cubic meters (1 cubic meter = 35.31 cubic feet).

BLOCK  An acreage subdivision measuring approximately 10 x 20 kms, forming part of a quadrant. E.g., block 9/13 is the 13th block in quadrant 9.

BLOW-DOWN  Condensate and gas is produced simultaneously from the outset of production.

BLOW-OUT  When well pressure exceeds the ability of the wellhead valves to control it. Oil and gas "blow wild" at the surface.

BLOW-OUT PREVENTERS (BOPS)  These are high pressure wellhead valves, designed to shut off the uncontrolled flow of hydrocarbons.

BOP  See blow-out preventers.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOREHOLE</td>
<td>The hole as drilled by the drill bit.</td>
</tr>
<tr>
<td>BRADENHEAD</td>
<td>A casing head.</td>
</tr>
<tr>
<td>BRADENHEAD TEST</td>
<td>A test designed to assess the mechanical integrity of a well, to detect the existence of wellbore mechanical failure and/or conditions which could lead to impacts on groundwater and possible loss of the hydrocarbon resource.</td>
</tr>
<tr>
<td>CASING</td>
<td>Pipe cemented in the well to seal off formation fluids or keep the hole from caving in.</td>
</tr>
<tr>
<td>CASING STRING</td>
<td>The steel tubing that lines a well after it has been drilled. It is formed from sections of steel tube screwed together.</td>
</tr>
<tr>
<td>CENTRAL ESTIMATE</td>
<td>A range of exploration drilling scenarios from which the following activity levels, based on recent historical experience, are adopted as the central estimates.</td>
</tr>
<tr>
<td>CHRISTMAS TREE</td>
<td>The assembly of fittings and valves on the top of the casing which control the production rate of oil.</td>
</tr>
<tr>
<td>COGIS</td>
<td>Colorado oil and gas information systems</td>
</tr>
<tr>
<td>COMMERCIAL FIELD</td>
<td>An oil and/or gas field judged to be capable of producing enough net income to make it worth developing.</td>
</tr>
<tr>
<td>COMPLETION</td>
<td>The installation of permanent wellhead equipment for the production of oil and gas.</td>
</tr>
<tr>
<td>CONDENSATE</td>
<td>Hydrocarbons which are in the gaseous state under reservoir conditions and which become liquid when temperature or pressure is reduced. A mixture of pentanes and higher hydrocarbons.</td>
</tr>
<tr>
<td>CORING</td>
<td>Taking rock samples from a well by means of a special tool -- a &quot;core barrel&quot;.</td>
</tr>
<tr>
<td>CRUDE OIL</td>
<td>Liquid petroleum as it comes out of the ground as distinguished from the refined oils manufactured out of it.</td>
</tr>
<tr>
<td>CUBIC FOOT</td>
<td>A standard unit used to measure quantity of gas (at atmospheric pressure); 1 cubic foot = 0.0283 cubic meters.</td>
</tr>
<tr>
<td>CUTTINGS</td>
<td>Rock chips cut from the formation by the drill bit and brought to the surface with the mud. Used by geologists to obtain formation data.</td>
</tr>
<tr>
<td>DEEPEN</td>
<td>To increase the distance below a specified reference datum.</td>
</tr>
</tbody>
</table>
DERRICK The tower-like structure that houses most of the drilling controls.

DEVELOPMENT PHASE The phase in which a proven oil or gas field is brought into production by drilling production (development) wells.

DRILL (1) To bore a hole, also see drilling, (2) an implement with cutting edges used to bore holes.

DRILLING The using of a rig and crew for the drilling, suspension, completion, production testing, capping, plugging and abandoning, deepening, plugging back, sidetracking, redrilling, or reconditioning of a well (except routine cleanout and pump or rod pulling operations) or the converting of a well to a source, injection, observation, or producing well, and including stratigraphic tests. Also includes any related environmental studies. Associated costs include completion costs but do not include equipping costs.

DRILLING RIG A drilling unit that is not permanently fixed to the seabed, e.g., a drillship, a semi-submersible, or a jack-up unit. Also means the derrick and its associated machinery.

DRY GAS Natural gas composed mainly of methane with only minor amounts of ethane, propane, and butane and little or no heavier hydrocarbons in the gasoline range.

DRY HOLE A well which has proved to be non-productive.

E&A Abbreviation for exploration and appraisal.

E&P Abbreviation for exploration and production.

EXPLORATION DRILLING Drilling carried out to determine whether hydrocarbons are present in a particular area or structure.

EXPLORATION PHASE The phase of operations which covers the search for oil or gas by carrying out detailed geological and geophysical surveys, followed up where appropriate by exploratory drilling.

EXPLORATION WELL A well drilled in an unproven area; search of a new and as yet undiscovered field and/or pool of oil or gas. Also known as a "wildcat well." Drilling in a known area, but to a deeper undrilled formation would constitute exploratory drilling.

FARM IN When a company acquires an interest in a block by taking over all or part of the financial commitment for drilling and exploration wells.

FIELD A geographical area under which an oil or gas reservoir lies.

FISHING Retrieving objects from the borehole, such as a broken drill string or tools.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORMATION PRESSURE</td>
<td>The pressure at the bottom of a well when it is shut in at the wellhead.</td>
</tr>
<tr>
<td>FORMATION WATER</td>
<td>Salt water underlying gas and oil in the formation.</td>
</tr>
<tr>
<td>FRACTURING</td>
<td>A method of breaking down a formation by pumping fluid at very high pressures. The objective is to increase production rates from a reservoir.</td>
</tr>
<tr>
<td>G</td>
<td>Gas.</td>
</tr>
<tr>
<td>G/C</td>
<td>Gas condensate.</td>
</tr>
<tr>
<td>GAS FIELD</td>
<td>A field containing natural gas but no oil.</td>
</tr>
<tr>
<td>GAS INJECTION</td>
<td>The process whereby separated associated gas is pumped back into a reservoir for conservation purposes or to maintain the reservoir pressure.</td>
</tr>
<tr>
<td>GAS/OIL RATIO</td>
<td>The volume of gas at atmospheric pressure produced per unit of oil produced.</td>
</tr>
<tr>
<td>GEOGRAPHIC INFORMATION SYSTEMS(GIS)</td>
<td>A computer system capable of assembling, storing, manipulating, and displaying geographically referenced information.</td>
</tr>
<tr>
<td>GIS</td>
<td>See: Geographic Information Systems</td>
</tr>
<tr>
<td>HYDROCARBON</td>
<td>A compound containing only the elements hydrogen and carbon. May exist as a solid, a liquid or a gas. The term is mainly used in a catch-all sense for oil, gas and condensate.</td>
</tr>
<tr>
<td>IDLE PRODUCING</td>
<td>A well shall be an idle well unless it has produced one or more barrels of oil or other hydrocarbon substances or 10,000 or more cubic feet of gas within any twelve (12) month period.</td>
</tr>
<tr>
<td>INJECTION WELL</td>
<td>A well used for pumping water or gas into the reservoir.</td>
</tr>
<tr>
<td>JACKET</td>
<td>The lower section, or &quot;legs&quot;, of an offshore platform.</td>
</tr>
<tr>
<td>KICK</td>
<td>A barge that is specially equipped to lay submarine pipelines.</td>
</tr>
<tr>
<td>LIQUEFIED NATURAL GAS (LNG)</td>
<td>Oilfield or naturally occurring gas, chiefly methane, liquefied for transportation.</td>
</tr>
</tbody>
</table>
LIQUEFIED PETROLEUM (LPG)  Light hydrocarbon material, gaseous at atmospheric temperature and pressure, held in the liquid state by pressure to facilitate storage, transport and handling. Commercial liquefied gas consists essentially of either propane or butane, or mixtures thereof.

Mboe  Million barrels oil equivalent.

MECHANICAL INTEGRITY TEST  The act of setting a packer or retrievable bridge plug above the perforations in a wellbore and applying pressure to the annulus in order to ensure soundness of the casing.

METRIC TON  Equivalent to 1000 kilos, 2204.61 lbs.; 7.5 barrels.

MIT  Mechanical integrity test

Mmcfd  An aperture in the center of a drillship or semi-submersible drilling rig, through which drilling and diving operations can be conducted.

MOU/MOA  Memorandums of Understanding/Agreement

MUD  A mixture of base substance and additives used to lubricate the drill bit and to counteract the natural pressure of the formation.

NATURAL GAS  Gas, occurring naturally and often found in association with crude petroleum.

NATURAL GAS POLICY ACT OF 1978  Enacted on November 9, 1978 and became effective December 1, 1978. The act has been amended, and it replaced or amended the natural gas act. Refer to 15usc 3301-3432.

NGLS  Natural gas liquids. Liquid hydrocarbons found in association with natural gas.


O  Oil.

O&G  Oil and gas.

OIL  A mixture of liquid hydrocarbons of different molecular weights.

OIL FIELD  A geographic area under which an oil reservoir lies.

OIL IN PLACE  An estimated measure of the total amount of oil contained in a reservoir and, as such, a higher figure than the estimated recoverable reserves of oil.
| **OPERATOR** | The company that has legal authority to drill wells and undertake the production of hydrocarbons that are found. The Operator is often part of a consortium and acts on behalf of this consortium. |
| **PAYZONE** | Rock in which oil and gas are found in exploitable quantities. |
| **PERMEABILITY** | The property of a formation which quantifies the flow of a fluid through the pore spaces and into the wellbore. |
| **PETROLEUM** | A generic name for hydrocarbons, including crude oil, natural gas liquids, natural gas, and their products. |
| **POROSITY** | The percentage of void in a porous rock compared to the solid formation. |
| **POSSIBLE RESERVES** | Those reserves which at present cannot be regarded as “probable” but are estimated to have a significant but less than 50% chance of being technically and economically producible. |
| **PRIMARY RECOVERY** | Recovery of oil or gas from a reservoir purely by using the natural pressure in the reservoir to force the oil or gas out. |
| **PROBABLE RESERVES** | Those reserves which are not yet proven but which are estimated to have a better than 50% chance of being technically and economically producible. |
| **PROVEN FIELD** | An oil and/or gas field whose physical extent and estimated reserves have been determined. |
| **PROVEN RESERVES** | Those reserves which on the available evidence are virtually certain to be technically and economically producible (i.e., having a better than 90% chance of being produced). |
| **RECOMPLETE** | An operation involving any of the following: (1) deepening from one zone to another zone, (2) completing well in an additional zone, (3) plugging back from one zone to another zone, (4) sidetracking to purposely change the location of the bottom of the obstructions in the borehole, (5) conversion of a service well to an oil or gas well in a different zone, or (6) conversion of an oil or gas well to a service well in a different zone well, but not including sidetracking for the sole purpose of bypassing. |
| **RECOVERABLE RESERVES** | That proportion of the oil and/gas in a reservoir that can be removed using currently available techniques. |
| **RECOVERY FACTOR** | That proportion of the oil and/gas in a reservoir that can be removed using currently available techniques. |
| **REENTER** | To enter a previously abandoned well. |
| **RESERVOIR** | The underground formation where oil and gas has accumulated. It consists of a porous rock to hold the oil or gas, and a cap rock that prevents its escape. |
| **RISER (DRILLING)** | A pipe between a seabed bop and a floating drilling rig. |
| **RISER (PRODUCTION)** | The section of pipework that joins a seabed wellhead to the Christmas tree. |
| **ROUGHNECK** | Drill crew members who work on the derrick floor, screwing together the sections of drill pipe when running or pulling a drill string. |
| **ROUSTABOUT** | Drill crew members who handle the loading and unloading of equipment and assist in general operations around the rig. |
| **ROYALTY PAYMENT** | The cash or payment in kind paid to the owner of mineral rights. |
| **SECONDARY RECOVERY** | Recovery of oil or gas from a reservoir by artificially maintaining or enhancing the reservoir pressure by injecting gas, water, or other substances into the reservoir rock. |
| **SHUT IN WELL** | A well which is capable of producing but is not presently producing. Reasons for a well being shut in may be lack of equipment, market, or other. |
| **SHUTDOWN** | A production hiatus during which the platform ceases to produce while essential maintenance work is undertaken. |
| **SI/TA** | Shut in /temporarily abandoned |
| **SIDETRACK** | A wellbore segment extending from a wellbore intersection along a wellbore path to a different wellbore bottom hole from any previously existing wellbore bottom holes. |
| **SIDETRACKING** | The well activity of drilling a new wellbore segment from a wellbore intersection to a new wellbore bottom hole or target. |
| **SPLIT ESTATE** | Lands where the surface is owned by an entity or person other than the owner of the Federal or Indian oil and gas. |
| **SPUDDING** | Initial hole making operations for a well. May involve dry-hole digger, cable tool spudding unit, air-rig or rotary rig capable of reaching total depth. (See BLM Drilling Operations Manual/Handbook 3160 – Glossary) |
| **SURFACE LOCATION** | The location of a well or facility/measurement point. |
| **SURFACE MANAGEMENT AGENCY (SMA)** | Any federal or state agency having jurisdiction over the surface overlying federal or Indian owned minerals.
SURFACE MANAGEMENT  Private owner or entity held in trust of the surface estate.

ENTITY

SURFACE RECLAMATION  A restoration of the surface as for productivity or usefulness.

SUSPENDED WELL  A well that has been capped off temporarily.

TCF  Trillion cubic feet (of gas)

TEMPORARILY ABANDONED  The act of isolating the completed interval or intervals within a wellbore from the surface by means of a cement retainer, cast iron bridge plug, cement plug, tubing and packer with tubing plug, or any combination thereof.

TOOLPUSHER  Second-in-command of a drilling crew under the drilling superintendent. Responsible for the day-to-day running of the rig and for ensuring that all the necessary equipment is available.

TOPSIDES  The superstructure of a platform

UIC  Underground injection control

UNDERGROUND INJECTION CONTROL  A program required in each state by a provision of the Safe Drinking Water Act (SDWA) for the regulation of injection wells, including a permit system. An applicant must demonstrate that the well has no reasonable chance of adversely affecting the quality of an underground source of drinking water before a permit is issued.

VARIANCE  An approved alternative to a provision or standard of an Order or Notice to Lessee.

WELL LOG  A record of geological formation penetrated during drilling, including technical details of the operation.

WILDCAT WELL  A well drilled in an unproven area. Also known as an "exploration well" (the term comes from exploration wells in West Texas in the 1920s. Wildcats were abundant in the locality, and those unlucky enough to be shot were hung from oil derricks).

WORKOVER  Remedial work to the equipment within a well, the well pipework, or relating to attempts to increase the rate of flow.

AFMSS APD Report Terms/Definitions

APD ID:  The unique identifier AFMSS assigns to an APD - (This is not the API or US Well Number).

APD Received Date: This is the date the operator submits the APD to the BLM.

APD Accepted Date: This is the date the BLM has determined that the APD is valid and the BLM has received payment.
This is the date the Review APD task is completed and the APD timer begins.

**APD Administratively Complete Date:** This is the date that the BLM has determined that the operator has submitted all deficient items and all components of the APD are complete. All reviewers have clicked the APD Complete button in the Post Deficiency Reviews.

The APD then moves to the Conditions of Approval (COA) tasks in the workflow. From this point the BLM has 30 days to approve the APD or the BLM will send either a 30-day letter or a deferral letter to the operator with the reasons for the deferral and an estimated time to complete the approval process.

**APD Decision (Including NEPA) Complete Date:** This is the date the Authorized Officer has made a decision on the APD and enters a final disposition (Approved or Denied.) The BLM APD processing time ends on this date. Additionally, the APD abstracts into AFMSS 1 in order to receive sundries, well completion reports, inspections, etc.

**Print APD Package Complete Date:** This is the date the operator prints the APD package completing the final task in the workflow. After the operator clicks the “complete” button the APD is sent to the Archive.

**Total Processing Time in Days from Accepted to Decision:** This calculation is the total number of days from the Accepted date to the Decision date.

**Processing Time in Days from Accepted to Complete:** This is calculation is the total number of days from the Accepted date to the Administratively Complete date. All deficiencies have been submitted and all necessary information needed by the BLM in order to process the APD has been submitted.

**Processing Time in Days from Complete to Decision:** This calculation is the total number of days from the Administratively Complete date to the Decision date.

**Deferred APD:** An APD becomes deferred if the BLM cannot approve an APD within 30 days of the administratively complete date. The BLM must notify the operator by the 30th day in writing (30-day letter in AFMSS 2) that the BLM is deferring action on the APD and requires additional time before making a final decision.

**Deferral Types:** There are three deferral types available for the users to request when selecting the deferral option to initiate a 30 day letter: BLM, Operator, and BLM and Operator.

However, there are only two workflow types programmed in AFMSS: the BLM Deferral or the Operator Deferral. If the type titled BLM and Operator Deferral is selected, the deferral will follow the Operator Deferral workflow. Once the operator submits the APD back to the BLM, the adjudicator will receive a task called, Review Changes and Deferral Items in which the adjudicator can send the APD back to the analyst requesting the deferral to address deferral items.

Please note, if the deferral type, “BLM and Operator” is selected, the AFMSS system will not automatically create a task for the BLM specialist to address deferral Items.